

Review

Test Ch 14-17 Monday

Playland presentations next class

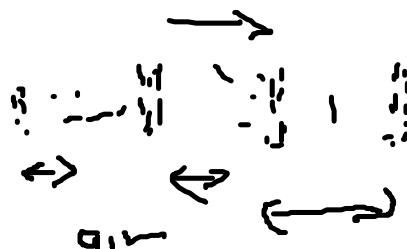
What's on the test?

Waves -
review quizzes

Waves - transfer energy through oscillations
transvers - oscillations are sideways to energy transfer



longitudinal - in the direction of energy transfer



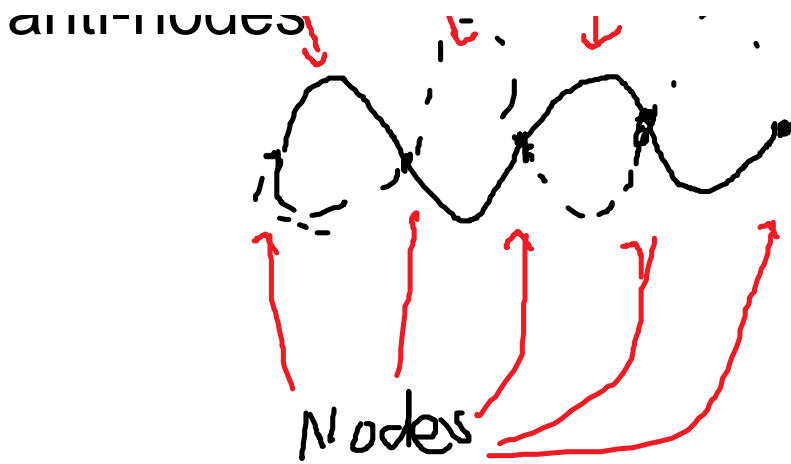
$T=1/f$ period is the time between oscillations = $1/\text{frequency of the oscillations}$

$$v=\lambda f$$

velocity is determined by the medium primarily.

standing waves -
anti-nodes





interference - when waves add together (constructive) or cancel out (destructive)

standing waves are produced when incoming waves and reflected wave interfere if the frequency is just right - resonant frequency.

For strings and open pipes, resonance happens when

$$L = N\lambda/2 \quad N \text{ is a whole number}$$

$$L = Nv/2f$$

For closed tubes

$$L = (2N-1)\lambda/4 = (2N-1)v/4f$$

electromagnetic waves - move at $3.00 \times 10^8 \text{ m/s}$ in a vacuum.

Radio, micro, infrared, visible, ultraviolet, x-rays, gamma

Law of reflection $\theta_i = \theta_r$

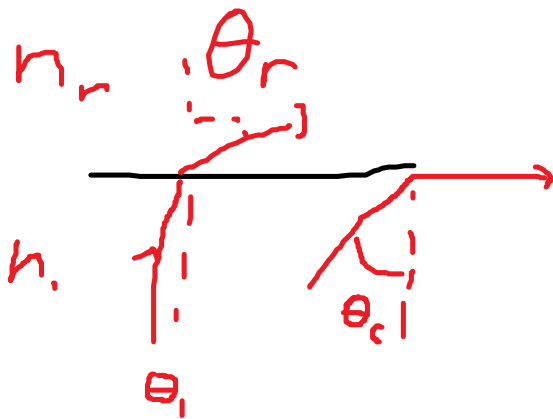


Snell's Law

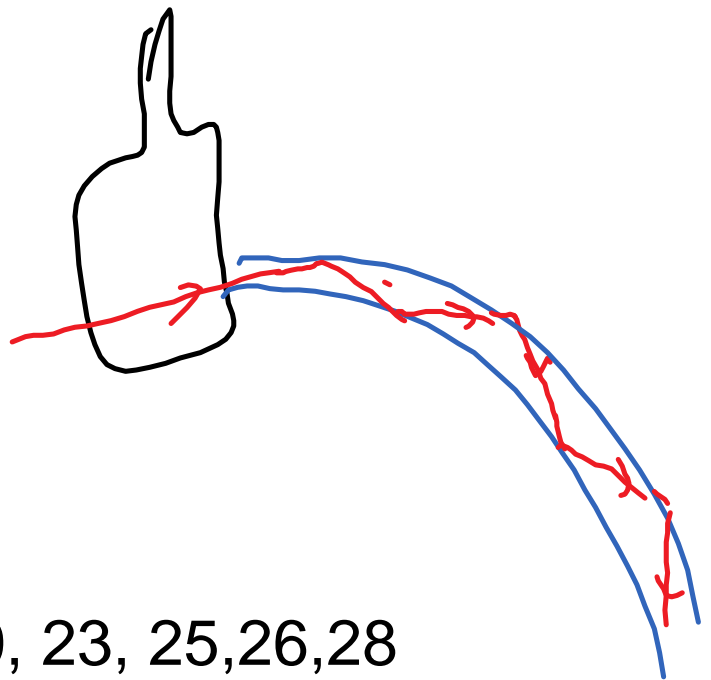
$$n_i \sin \theta_i = n_r \sin \theta_r$$

$$n = c/v$$

critical angle - refracted angle is 90°



$$n_r > n_i$$



p364-365

problems: 6, 12, 14, 20, 23, 25, 26, 28